**Read**: Chapter 50 sections 1 and 2

Chapter 54 Ecosystems

**Watch videos:**

Bozeman – Ecosystems, Biochemical Cycling, Ecosystem changes

**Ecosystem Objectives:**

1. What are the major factors (characteristics) that determine the terrestrial ecosystem that exists in a particular location?
2. What are the major factors that determine the marine ecosystem that exists in a particular location?
3. How does the first law of thermodynamics effect the movement of matter and energy through an ecosystem?
4. Explain what limiting factors are.
5. How do limiting factors influence the productivity of an ecosystem?
6. Explain the “10% rule”, how it affects the trophic structure of the ecosystem, and why it is a bit of an oversimplification.
7. Explain what all nutrient cycles have in common.
8. Provide examples of how biotic and abiotic factors affect organism behavior, community interactions, and ecosystem structure. Utilize the following examples in your responses:
   1. Sunlight
   2. Symbiosis (mutualism, commensalism, parasitism)
   3. Predator–prey relationships
   4. Water and nutrient availability, temperature, salinity, pH
   5. Availability of nesting materials and sites
   6. Food chains and food webs
   7. Species diversity
   8. Population density
   9. Algal blooms (eutrophication)